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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/583,861 | 06/21/2006 | Soon Jo Lee | 3449-0650PUS1 | 8586 |

2292 7590 02/05/2009

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

| EXAMINER | |
|---|---|
| GRAVINI, STEPHEN MICHAEL | |
| ART UNIT | PAPER NUMBER |
| 3743 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 02/05/2009 | ELECTRONIC |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/583,861 | LEE, SOON JO | |
| | Examiner | Art Unit | |
| | Stephen M. Gravini | 3743 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,2,5-10,12 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5-10,12 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### *Claim Rejections - 35 USC § 103*

Claims 1-2, 6-7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wunderlin et al. (US 6,845,290) in view of Wakaeya et al. (US 5,050,313). The claims are reasonably and broadly construed, in light of the accompanying specification, to be disclosed by Wunderlin as comprising:

a key input unit **82** configured to enable a user to select a drying course and a degree of dryness;

a humidity detecting unit **52** configured to detect a humidity of objects, which are loaded in a drum to be dried, during a drying cycle; and

a control unit **58** configured to determine a total number of objects and to control a duration of the drying cycle based on the selected drying course, the selected degree of dryness and the determined total number at column 4 lines 24-49. Wunderlin also discloses the claimed features wherein the control unit is configured to extend a drying cycle corresponding to the selected drying course and the selected degree of the dryness based on the determined total number at column 18 lines 25-47, load driving unit for controlling a load according to a control signal from the control unit at column 16 line 64 through column 17 line 19, wherein the humidity detecting unit is formed of an electrode sensor at column 3 line 5, and determining a point of drying ending time when

a voltage reaches a predetermined voltage after the additional drying cycle is performed at column 4 line 13 through column 5 line 9. Wunderlin discloses the claimed invention, except for the claimed feature of comparing a lowest humidity value detected for a predetermined time with a predetermined humidity value. Wakaeya, another dryer, discloses that feature at column 10 line 53 through column 12 line 21. It would have been obvious to one skilled in the art to combine the teachings of Wunderlin with the feature of comparing a lowest humidity value detected for a predetermined time with a predetermined humidity value, disclosed in Wakaeya, for the purpose of using humidity values to control the efficient use of energy in drum dryers.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 5,347,727) in view of Wakaeya. The claims are reasonably and broadly construed, in light of the accompanying specification, to be disclosed by Kim as comprising:

selecting a desired drying course and a desired degree of dryness based upon a user drying course input and user degree of dryness input at column 3 lines 1-2;

detecting a humidity of objects, which are loaded in the drum to be dried, through the humidity detecting unit while a drying cycle is performed at column 4 lines 48-57 and column 9 lines 25-31;

determining a total number of the objects at column 4 lines 65-68; and

controlling a duration of the drying cycle based on the selected drying course, the selected degree of the dryness and the determined total number at column 5 liens 38-

55 and column 10 lines 28-49. Kim also discloses the claimed extending a drying cycle corresponding to the selected drying course and the selected degree of the dryness based on the determined total number at column 10 lines 50-63. Kim discloses the claimed invention, except for the claimed feature of comparing a lowest humidity value detected for a predetermined time with a predetermined humidity value. Wakaeya, another dryer, discloses that feature at column 10 line 53 through column 12 line 21. It would have been obvious to one skilled in the art to combine the teachings of Wunderlin with the feature of comparing a lowest humidity value detected for a predetermined time with a predetermined humidity value, disclosed in Wakaeya, for the purpose of using humidity values to control the efficient use of energy in drum dryers.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wunderlin in view of Wakaeya. Wunderlin in view of Wakaeya discloses the claimed invention, as rejected above, except for the claimed predetermined time of ten minutes. It would have been and obvious matter of design choice to provide a predetermined time, since the teachings of Wunderlin in view of Wakaeya would perform the invention as claimed regardless of the amount of time predetermined.

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Wakaeya in view of Chernetski (US 2004/066303). Kim in view of Wakaeya discloses the claimed invention, as rejected above, except for the claimed predetermined time of ten minutes. It would have been and obvious matter of design choice to provide a predetermined time, since the teachings of Kim in view of Wakaeya would perform the invention as claimed regardless of the amount of time predetermined.

Furthermore, Kim discloses the claimed invention, except for the claimed feature of determining a point of drying ending time when a voltage reaches a predetermined voltage after the additional drying cycle is performed. Chernetski, another dryer controller method, discloses that feature in the abstract of that reference. It would have been obvious to one skilled in the art to combine the teachings of Kim in view of Wakaeya with the ending time determination step, as disclosed in Chernetski, for the purpose of optimizing drying efficiency by minimizing energy used in a drying time period.

***Double Patenting***

Claims 1-2, 5-10, 12, and 21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent Application No. 11/753,022 in view of Wakaeya. Applicant assignee's earlier patent recites the claimed invention, except for the claimed comparing step. Wakaeya, another dryer, discloses that feature at column 10 line 53 through column 12 line 21. It would have been obvious to one skilled in the art to combine copending application with the disclosed feature of comparing a lowest humidity value detected for a predetermined time with a predetermined humidity value, disclosed in Wakaeya, for the purpose of using humidity values to control the efficient use of energy in drum dryers.

***Response to Arguments***

Applicant's arguments with respect to claims 1-2, 5-10, 12, and 21 have been considered but are moot in view of the new grounds of rejection.

## *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth B. Rinehart can be reached on 571 272 4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen Gravini/
Primary Examiner, Art Unit 3743